

# INCIDENCE AND COMMON PRESENTATIONS OF DIFFERENT TYPES OF CARDIOMYOPATHIES IN OUR SET UP

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## ABSTRACT

**OBJECTIVES:** To see the incidence, prevalence and common presentation of different types of cardiomyopathies in patient presenting with congestive heart failure (CHF).

**SETTING:** This study was carried out at Cardiology Department of Liaquat University Hospital Hyderabad over a period of 9 months from August 2001 to April 2002.

**METHODOLOGY:** This descriptive case series study included 200 patients who presented with congestive heart failure or angina. Detailed history of all patients was taken, systemic examination done. After appropriate investigations a diagnosis of all cases was made and patients were treated accordingly. All the parameters studied were noted and compiled later on.

**RESULTS:** Dilated cardiomyopathy was seen in 140 cases, ischemic cardiomyopathy in 38 cases and hypertrophic cardiomyopathy in 22 cases. While no case of restrictive cardiomyopathy was seen in this study.

**CONCLUSION:** Ischemic cases are more common in our society than western world because of inadequate awareness and lack of facilities in rural areas. It was also noted that males of older age group suffer more from congestive heart failure due to cardiomyopathy than females.

**KEY WORDS:** *Cardiomyopathy. Incidence. Etiology. Management.*

## INTRODUCTION

Cardiomyopathy (CMP) is a broad term that includes subacute or chronic disorders of the myocardium. It is also referred as a group of systemic diseases and processes that are toxic to or alter the myocardium. It is divided into three types i.e. Dilated, Hypertrophic and Restrictive Cardiomyopathies. Of these, dilated cardiomyopathy is the most common and represents a large subset of the congestive heart failure cases. The most widely recognized classification scheme for cardiomyopathies is that promulgated by World Health Organization<sup>1</sup>. Although the cause is not identifiable in many cases, more than 75 specific diseases of heart muscles can produce the clinical manifestation of dilated cardiomyopathy (DCMP)<sup>2</sup>. Abnormalities in calcium handling by cardiomyopathy tissue is a common finding<sup>3</sup>.

There has been wide speculation that an episode of sub clinical viral myocarditis initiates an auto immune reaction that culminates in the development of full blown DCMP<sup>4</sup>. It has been estimated that only 15% of patients with myocarditis progress to DCMP<sup>5</sup>. Evidence favouring the concept that DCMP is post viral disorder includes the presence of high antibody titres<sup>5</sup>. Chronic excessive consumption of alcohol is the major cause of non ischemic dilated

cardiomyopathy in the Western World.<sup>6</sup>

Hypertrophic cardiomyopathy (HCMP) is massive hypertrophy of ventricles and its cause still remains unknown. Previous studies link the abnormal calcium kinetics and special features of HCMP<sup>7,8,9</sup>. Other suggested aetiological factors for HCMP include abnormal sympathetic stimulation, abnormally thickened intra mural coronary arteries, subendocardial ischemia and structural abnormality of the septum<sup>10-14</sup>. Meanwhile restrictive CMP is the least common type of CMP. Purpose of this study was to find the incidence, prevalence and common presentation of different types of CMP in patients presenting with congestive heart failure (CHF).

## METHODOLOGY

This was a descriptive case series study of 200 patients who presented with congestive heart failure and or angina. It was carried out in the cardiology department of Liaquat University Hospital Hyderabad over a period of 9 months from August 2001 to April 2002. One hundred sixty patients presented with signs and symptoms of cardiac failure and 35 with history of chest pain and only 5 patients presented with syncope. Detailed history of patients was taken on a previously prepared proforma which included age, personal history, family history, past history,

occupational history and drug history. Physical examination of all systems was carried out. Routine investigations including complete blood picture, urine analysis, blood sugar, blood urea, electrolytes, and x-ray chest along with ECG and echocardiography were performed in all patients.

Echocardiography was advised specially in those patients having associated valvular lesion and hypertrophied ventricles and septum. Forty patients needed cardiac catheterization and angiography but due to non availability of the technique in our institute, this invasive procedure could not be done. However the results of 8 patients were known and rest of the patients were lost during follow up.

All patients with DCMP were treated on medical therapy. Forty of these were treated by giving inotropic support for 5-7 days and only 6 patients were given inotropic support for more than 15 days. Nitrates were used in patients suffering from ICMP and responded well.

Young patients diagnosed as HCMP were put on B-blockers. Anticoagulants were used in patients showing arrhythmias specially atrial fibrillation. Intravenous cardarone was used in 22 patients showing frequent arrhythmias specially multiple PVCs or VT (requiring hospitalization). Generally, all of these cases were managed medically with oral cardarone, B-blockers and occasionally verapamil and B-blockers (combination).

## RESULTS

This study included total two hundred patients, 140 males & 60 females with clinical presentation of CHF, angina or syncope.

**Age Distribution:** The youngest patient was 15 years of age and the oldest was 74 years. The maximum incidence of DCMP was above 40 years and the incidence of HCMP was found between the age group of 15-30 years.

**Personal / Past History:** 75% of the patients had the history of sudden onset of dyspnoea increasing on exertion and aggravated by the passage of time. 20% of the patients gave history of acute myocardial infarction (AMI) and previous hospitalization. 0.5% of patients gave history of syncope experiencing first time in their life.

**Family History:** Only 10 young patients gave history of sudden cardiac death in their family, while the old patients with DCMP had rare positive history. More details of results are tabulated.

**TABLE-I CLINICAL FEATURES OF PATIENTS**

Clinical Features	Percentage
<b>PULSE:</b>	
Normal (rate, rhythm & volume)	25
Low volume, regular with Tachycardia	40
Pulsus deficit	15
Irregular, missing	05
Jerky	05
Impalpable	10
<b>APEX BEAT:</b>	
Normal in 4/5 <sup>th</sup> space	15
Not visible and not palpable	20
Just palpable and shifted	40
Heaving and shifted	15
Double apex beat	05
<b>BLOOD PRESSURE:</b>	
Normal	20
Low	75
High	05

**TABLE-II SHOWING RADIOLOGICAL, ECG AND ECHOCARDIOGRAPHIC FINDINGS**

Findings of investigations	Percentage
<b>CHEST X_RAY:</b>	
Cardiomegaly in	90
<b>ECG:</b>	
Sinus Tachycardia	65
Non specific ST-T changes	15
Atrial Fibrillation	10
<b>Arrhythmias:</b>	
SVT	05
VT	05
<b>ECHOCARDIOGRAPHY:</b>	
Dilated chambers with thin walls and global hypokinesia.	62
Dilated chambers with thin walls segmental hypokinesia.	30
Thick ventricular walls	05
With asymmetrical hypertrophied septum	
And Narrow LV cavity	
Symetrical thickened LV walls and normal or slightly decreased ventricular volume & systolic dysfunction.	03

## DISCUSSION

Cardiomyopathy specially the dilated cardiomyopathy is the commonest disease causing CHF in both sexes of older age group and the peak incidence is seen

between the age group of 55-70 years. Although the exact cause of dilated cardiomyopathy is not yet clear but at least four conditions have been found to be linked with DCMP and it is possible that in some cases a combination of factors result in severe myocardial damage<sup>15</sup>. Systemic hypertension, pregnancy, chronic excessive alcohol ingestion, variety of infections and cigarette smoking have been found to be associated with DCMP<sup>15</sup>. However, ischemic component is another major factor contributing the cardiomyopathy following unknown aetiology specially in our society due to lack of proper facilities, unawareness, delayed reperfusion and the economic problems.

Myocarditis also contributes in development of CMP as in our society delayed diagnosis and inadequate treatment due to lack of tertiary facilities is the major problem. In our study, it was noticed that peripartum cardiomyopathy prevalence in our society is much higher as compared to that in western countries. The reasons were marked clearly i.e. the lack of antenatal care and improper nutrition. The worsening of CHF was very nicely controlled by proper and timely medication and the significant clinical improvement of LV function was also seen in patients of peripartum CMP who were given supportive therapy alone.

Kulick DL, et al recently reported both objective and subjective improvements in 9 out of 10 patients with peripartum CMP who had biopsy evidence of myocarditis when given immunosuppressive agents<sup>17</sup>. The ratio of CMP due to alcohol was seen much lesser than the western countries because of decreased consumption of alcohol in our society as a result of religious and moral beliefs.

## CONCLUSION

It is concluded from this study that males of older age group suffer more from CHF due to CMP than the females. Ischemic cases are more in our society than the Western World because of the inadequate awareness and the lack of facilities in rural areas. Moreover, immediate reperfusion therapy in most of the cases is not received either due to delayed hospitalization or due to economical problems. Peripartum cardiomyopathy cases are seen more in our population due to anaemia, improper antenatal care, economic problems and above all low literacy rate in our society.

However the cases diagnosed as CMP due to alcohol numbered very much less than the western

population because of the decreased alcohol use in our population.

It was also noticed that troublesome cardiac failure can be controlled by timely adequate therapy.

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